

National Center for Research



in Geography Education

Request for Proposals

Transformative Research in Geography Education

Application Deadline: May 15th, 2017
(due by 5:00 pm proposer's local time)

I. INTRODUCTION

The National Center for Research in Geography Education (NCRGE) invites proposals to develop new collaborative and interdisciplinary research networks addressing major questions and challenges in geography education. Through this program, NCRGE aspires to strengthen geography education research processes and promote the growth of sustainable, and potentially transformative, lines of research.

In 2007, the U.S. National Science Foundation adopted the following working definition of "transformative research":

Transformative research involves ideas, discoveries, or tools that radically change our understanding of an important existing scientific or engineering concept or educational practice or leads to the creation of a new paradigm or field of science, engineering, or education. Such research challenges current understanding or provides pathways to new frontiers.

What might transformative research look like in the context of geography education? This question was given in-depth consideration by [The Road Map for 21st Century Geography Education](#) project from 2011-2013. The Road Map Project issued a landmark study and research agenda in 2013 (Bednarz, Heffron, & Huynh, 2013) that built on many prior efforts to assess the state of research in geography education (Butt, 2010; Segall & Helfenbein, 2008; Bednarz, Downs, & Vender, 2003; Boehm & Petersen, 1997; Forsyth, 1995; Downs, 1994).

The Road Map Project's research agenda offers a set of recommendations for building research capacity and capability in geography education. It emphasizes scientific approaches to research planning and design as a strategy for moving beyond the descriptive, singular, and anecdotal studies that abound in the literature. Enacting this vision will require considerable coordination, collaboration, and information sharing among geographers and educational researchers in other disciplines.

NCRGE was established in 2014 with the goal of building a research coordination network whose members carry out bold, visionary, and innovative research aligned with the Road Map Project's agenda. With headquarters at the American Association of Geographers (AAG) and Texas State University, NCRGE serves as a coordinating hub for research networking activities involving scholars, teachers, and graduate students in over 50 organizations and universities in the U.S., as well as overseas in 10 different countries.

II. PROGRAM DESCRIPTION

2017 Priority Area: Proposals are welcome on any geography education research topic that directly supports the Road Map Project research agenda. Of special interest this year are proposals to establish new research groups in the areas of *assessment, informal geography education, and teacher education and training (pre-service or in-service)*, including work related to GeoCapabilities (www.geocapabilities.org).

Funding under this program is intended to support the formation of new research groups through three mechanisms: 1) **research fellowships** for interdisciplinary collaborations, 2) **research meetings, workshops, and site visits**, and 3) **research clearinghouse** activities including contributions of new datasets, validated instruments, annotated bibliographies, and other resources supporting geography education research.

1) Research Fellowships: Through its Transformative Research grant program, NCRGE is offering individual research fellowships of up to \$2,500/person to initiate new collaborations between geographers and educational researchers with expertise in topical areas emphasized in the Road Map Project. Fellowships may be used as honoraria and travel support for the recipient. Each researcher supported by a fellowship should complement the expertise of the lead proposer and diversify the disciplines represented in the thematic research group. As the Road Map Project explains, an important strategy for capacity building is to connect the relatively small community of geographers who conduct research in geography education with the broader community of scholars from the learning sciences, education, STEM, and related fields. This cooperation and collaboration can inform, assist, and enable activities that have strong potential to transform research and practice in geography education.

2) Research Meetings, Workshops, and Site Visits: Funding through the NCRGE Transformative Research grant program may also be used to support face-to-face and virtual meetings of the initial members of a thematic research group. Such activities might include a) workshops to support exploratory ideas; b) travel grants for researchers to attend national research conferences and to report their findings with the geography education community; and c) mechanisms to foster collaborations on projects, such as funding workshops, sharing grant announcements, and connecting individuals with similar research interests. Proposers must have a strategy and diversity plan for recruiting new members into their research group over time. The participation of graduate students, teachers, Geographic Alliances, and early career faculty is especially encouraged.

Proposals submitted in response to this program are required to include a travel budget for the group chair and at least one additional member to present the results of their projects at a NCRGE Transformative Research Symposium that will be held during the 2018 AAG Annual Meeting in New Orleans, Louisiana.

3) Research Clearinghouse: Funding provided under the Transformative Research program may also be used to support the development of the NCRGE research clearinghouse. This clearinghouse is available on a social network accessible by all RCN members. Funds may be requested for initial acquisitions of key resources, publications, database development, and honoraria for network members responsible for monitoring and developing their group's section of the research clearinghouse. Each thematic research group funded by this program should appoint a Chair who will have lead responsibility for managing communications within their group and overseeing the development of their dedicated section of the clearinghouse. Applicants should indicate how their planning activities are likely to support the long-term development of the clearinghouse established

by their thematic research group (for example by making the content openly accessible to researchers outside of the network).

The NCRGE social network serves as the main hub for promoting interaction, cooperation, and collaboration among members of the RCN. Individuals who participate in the research groups established under this grant program will enroll in the NCRGE social network, where online forums and other communication tools are available to support group communications and clearinghouse activities.

Thematic Research Group (Example): Learning Progressions

The mechanisms described above are intended to operate in unison to advance research planning and networking activities that are foundational for potentially transformative research. Consider the following scenario as an illustration of this process.

*A research group composed of six individuals with a shared interest in learning progressions apply for NCRGE funding to establish a network for learning progressions research in geography. The initial focus of this group is to plan preliminary data gathering for authenticating a spatial thinking assessment. This work is conceived as a prelude to a multi-site, longitudinal research project to develop a learning progression with potential to inform future revisions of national geography standards for maps, geospatial technology and spatial thinking. To augment their team, the group proposes a collaboration with a scholar from math education with expertise in design-based research. The group chair applies for a **NCRGE research fellowship** to support a consultation with this established scholar. Next, the group begins to plan a pilot study using a common spatial thinking assessment in collaboration with schools affiliated with the Geographic Alliances in their respective states. This plan includes multiple events for which the group members use **NCRGE research meeting funds** to reconvene and present preliminary findings at academic conferences, organize Alliance workshops to involve teachers in the pilot testing, and plan their subsequent research and analysis. As a result of this experience, many of the participating teachers join the nascent learning progressions research group. Throughout their work, group members use a dedicated **NCRGE research clearinghouse** to exchange data, literature, and other resources. After a year of planning and analysis, the group is ready to prepare a full proposal for submission to NSF. NCRGE headquarters will join the proposal and receive a budget to provide ongoing services and coordination. The research group will continue to foster the development of a learning progressions research network in geography.*

Proposers are encouraged to visit www.ncrge.org to review examples of funded projects under this program. Questions about this program may be submitted to ncrge@aag.org.

III. ELIGIBILITY

- ☐ Lead PI must be a U.S.-based researcher affiliated with a university or organization currently in the NCRGE research coordination network. For a map of current RCN member locations, visit www.ncrge.org. NCRGE RCN membership is free and application forms are available on the website.
- ☐ International collaborators are strongly encouraged and may be included in a proposed thematic research group.

IV. PROPOSAL PREPARATION GUIDELINES

A. Project Summary (1-page maximum)

- Each proposal must contain a one-page summary of the proposed project consisting of an overview, a statement on the intellectual merit of the proposed activity, and a statement on the broader impacts of the proposed activity. The first sentence of the overview section should identify the thematic line of research that will be addressed by the research group. Per the [NSF Grant Proposal Guide](#), the remainder of the overview should be a description of the activity that would result if the proposal were funded and a statement of objectives and methods to be employed. The statement on intellectual merit should describe the potential of the proposed activity to advance knowledge. The statement on broader impacts should describe the potential of the proposed activity to benefit society and contribute to the achievement of specific, desired societal outcomes.

B. Project Description (8-page maximum)

- **Goals and Objectives:** Explain how NCRGE funds will be used to form a thematic research group through a combination of research fellowships, research meetings, and activities related to the research clearinghouse. Include a detailed schedule of activities, benchmarks for reaching objectives, and a description of the roles of all key individuals involved initially in the research group, including who will serve as the initial Chair of the group.
- **Significance:** Description of how the proposed research planning activities will open new scientific directions for geography education research, with specific connections with the Road Map Project's agenda for transformative research. Specify how principles of transformative research will inform the design of the proposed activities in the short term as well as the long-term aspirations of the research group.
- **Justification:** Provide a succinct rationale for the proposed activities. The justification should explain what unique expertise, facilities, and/or other resources available to researchers at planning site locations will enable potentially transformative research activities.
- **Professional Development:** Description of the involvement of students and/or early career researchers, if applicable, along with a plan for enhancing the diversity of the research group.
- **Outcomes and Dissemination:** Strategies and plans for continuing the research after completion of the planning activities, including projected outcomes, ongoing network-building and contributions to the NCRGE research clearinghouse, and plans for grant proposals to major external funding agencies, such as NSF, the U.S. Department of Education, National Endowment for the Humanities, and private foundations.

C. REFERENCES CITED

D. BIOGRAPHICAL SKETCHES of all research personnel, in the specified NSF format given in the [NSF Grant Proposal Guide](#), Chapter II.C.2.f.

E. BUDGET

NCRGE anticipates the availability of \$60,000 to support projects under the 2017 Transformative Research program. Proposals may request a maximum of \$20,000 for projects lasting up to 12 months.

Each proposal must contain a budget for research fellowships, research meetings, and research clearinghouse activities. The amounts for each budget line item requested must be documented and justified in a budget justification of no more than three pages. Proposers should follow the NSF budget format specified in the [NSF Grant Proposal Guide](#). In no case should the amount for lodging and meals and incidental expenses (M&IE) exceed the [authorized US Government per diem rates](#).

NCRGE Transformative Research funds are administered as direct awards to individuals. In addition to supporting the research fellowships, meetings, and clearinghouse functions described above, NCRGE grant funds may only be used for direct research expenses (e.g., reimbursable materials and supplies).

NCRGE does not pay indirect costs to organizations. Other unallowable costs under the NCRGE Transformative Research grant program include student fees, tuition and assistantships; program development and facilities; equipment; and fringe benefits. Refer to the NSF Grant Proposal Guide for other restrictions on the use of funds.

V. PROPOSAL PROCESSING AND REVIEW

Proposals must be submitted by the application deadline as a single PDF document to ncrge@aag.org.

Proposals submitted in response to this program will be reviewed by an external panel of experts. Notifications of funding or declination will be made by June 15, 2017. In addition to the criteria specified in the program description, proposals will be evaluated using NSF criteria for Intellectual Merit and Broader Impacts as specified in the [NSF Grant Proposal Guide](#).

Researchers receiving funding under the NCRGE Transformative Research grant program are required to participate in periodic conference calls (every 3-4 months) with the NCRGE Co-Directors and produce an end-of-project report within 90 days of the project's ending date. Researchers are also required to submit a manuscript related to their activities for publication in a special issue of the NCRGE journal, *Research in Geographic Education*.

Projects funded under this program should begin on or around July 1, 2017. Prior to disbursement of funds, researchers must provide documentation of IRB approval for any research involving human subjects.

Questions about the NCRGE Transformative Research grant program may be directed to the NCRGE Co-Directors, Dr. Michael Solem (msolem@aag.org) and Dr. Richard G. Boehm (rb03@txstate.edu).

REFERENCES

- Bednarz, S. W., Heffron, S., & Huynh, N. T. (Eds.). (2013). *A road map for 21st century geography education: Geography education research* (A report from the Geography Education Research Committee of the Road Map for 21st Century Geography Education Project). Washington, DC: Association of American Geographers.
- Bednarz, S.W., Downs, R.M., & Vender, J.C. (2003). Geography Education. In G.L. Gaile & C.J. Willmott (Eds.), *Geography in America: At the dawn of the 21st century* (pp. 679-690). Oxford, UK: Oxford University Press.
- Boehm, R. G. & J. F. Petersen (Eds.) (1997). *The First Assessment: Research in Geographic Education*. San Marcos, TX: The Gilbert M. Grosvenor Center for Geographic Education.
- Butt, G. (Ed.). (2010). Guest editorial and introduction to the special forum: Perspectives on research in geography education. *International Research in Geographical and Environmental Education*, 19(2), 79-125.
- Downs, R.M. (1994). The need for research in geography education: It would be nice to have some data. *Journal of Geography*, 93(1), 57-60.
- Forsyth, A.S. Jr. (1995). *Learning geography: An annotated bibliography of research paths*. Indiana, PA: National Council for Geographic Education.
- Segall, A., & Helfenbein, R.J. (2008). Research on K-12 geography education. In L.S. Levstik, & C.A. Tyson (Eds.), *Handbook of research in social studies education* (pp. 259-283). New York, NY: Routledge.

